

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 56025703  
PUBLICATION DATE : 12-03-81

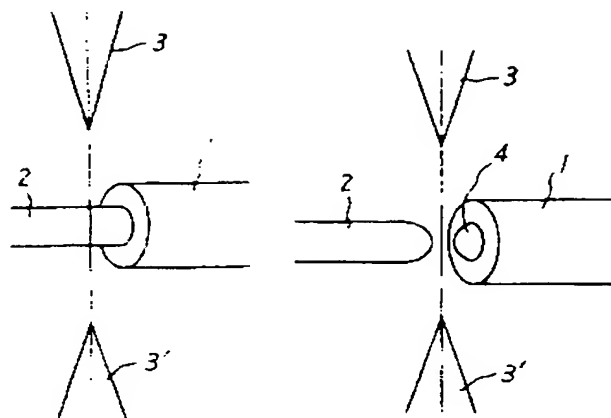
APPLICATION DATE : 09-08-79  
APPLICATION NUMBER : 54100790

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INT.CL. : G02B 5/14 // G02B 7/26

TITLE : PREPARATION OF OPTICAL FIBER  
END LENS



ABSTRACT : PURPOSE: To prepare a lens easily and a short time, by cutting a glass rod of thin diameter closely stuck to the fiber end, by means of thermal dissolution, simultaneously melt-sticking the cut glass rod piece to the optical fiber end, and forming an end lens.

CONSTITUTION: A glass rod of thin diameter 2 is firmly stuck to the end which has become a concave face due to chemical etching of the end of an optical fiber 1, and a fiber axis is made to conform with an axis of the glass rod of thin diameter 2. When the glass rod of thin diameter 2 is fused and cut by electric discharge between the discharge electrodes 3, 3' at the position which is 10~100 $\mu$ m away from the end, a hemispherical lens 4 is formed in the end of the fiber 1 owing to the surface tension. According to said method, centering control for melt-sticking a lens and also preparation of the lens are easy, and therefore the optical fiber end lens can be prepared in a short time.

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